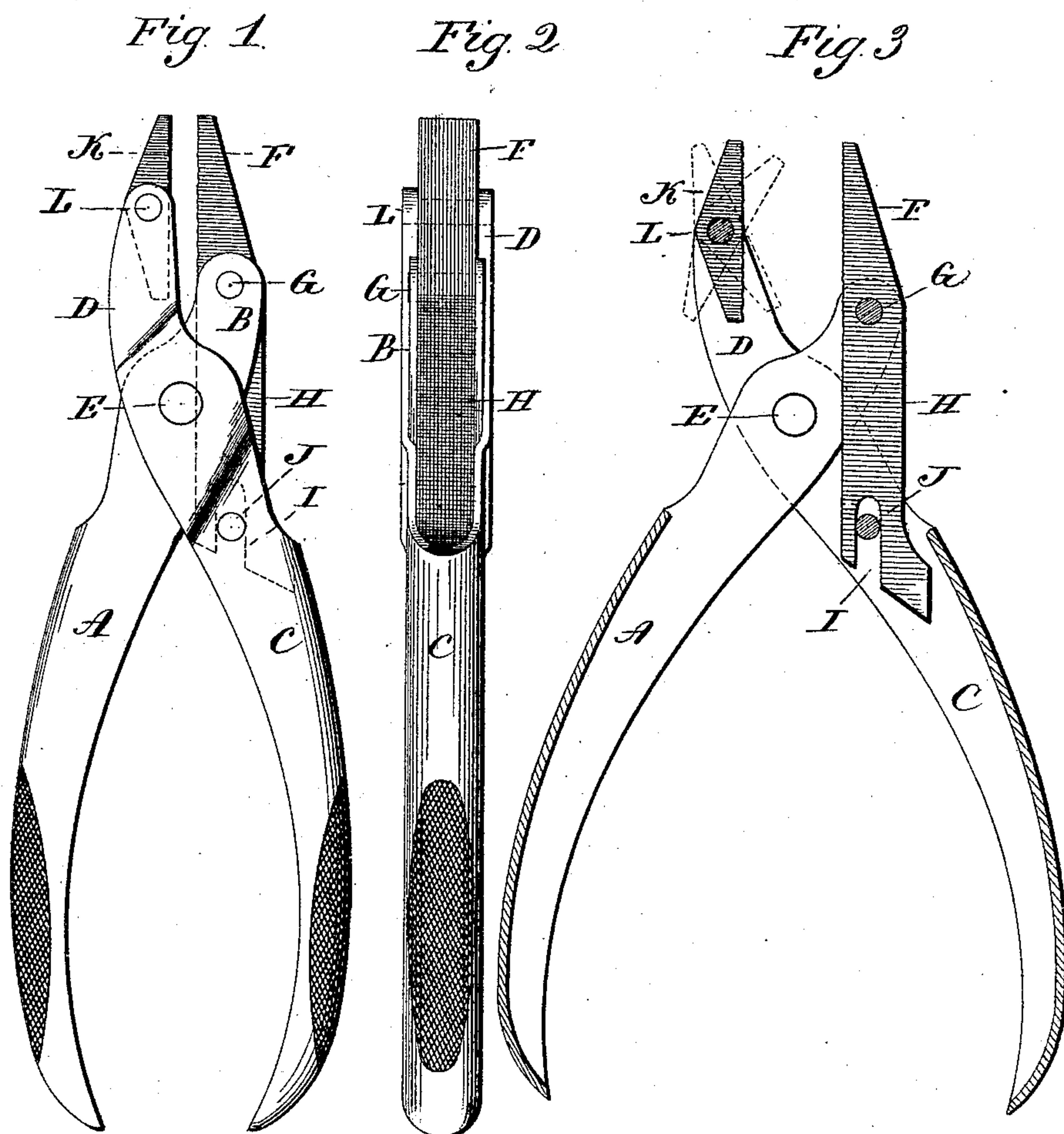


(No Model.)

F. W. BROCKSIEPER.
PLIERS.

No. 444,207.

Patented Jan. 6, 1891.



Witnesses.
J. H. Shumway.
L. D. Kellogg.

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UNITED STATES PATENT OFFICE.

FREDRICH W. BROCKSIEPER, OF NEW HAVEN, CONNECTICUT, ASSIGNOR
TO SARGENT & COMPANY, OF SAME PLACE.

PLIERS.

SPECIFICATION forming part of Letters Patent No. 444,207, dated January 6, 1891.

Application filed October 6, 1890. Serial No. 367,152. (No model.)

To all whom it may concern:

Be it known that I, FREDRICH W. BROCKSIEPER, of New Haven, in the county of New Haven and State of Connecticut, have invented new Improvements in Pliers; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a side view showing the pliers in the natural closed position; Fig. 2, an edge view of the same; Fig. 3, a sectional side view showing the jaws in the open position.

This invention relates to an improvement in pliers, the object being to make the jaws automatically adjustable with relation to each other, in order that articles of varying shape may be readily grasped and firmly held between the jaws; and the invention consists in a pair of levers crossing each other, hung upon a pivot at the crossing, the arms at one side of the pivot forming handles, and one of the arms upon the other side of the pivot having a jaw hung therein and guided so as to maintain substantially a parallel plane, and the corresponding arm of the other lever having a jaw pivoted therein adapted to rock in the plane in which the arm swings, and as more fully hereinafter described.

A and B represent the two arms of one lever; and C and D represent corresponding arms of the other lever. The two arms crossing are hung together upon a pivot E. The two arms A C form handles, as in the usual construction. To the arm B a jaw F is hung upon a pivot G, the said pivot G being parallel with the pivot E, on which the levers swing. The jaw F projects beyond the pivot G, and is constructed with an extension H upon the other side of the pivot G, and on that side is constructed with a slot I, which works upon a pivot J in the arm C, said pivot J being upon the opposite side of the pivot E to that of the pivot G, and distant from the pivot E equal to the distance of the pivot E from the pivot G, and so that as the handles or arms A C are separated, as from the position in Fig. 1 to that in Fig. 3, the pivot J will take its end of the jaw away from the

pivot in substantially the same movement as does the pivot G, upon which the jaw F is hung. Hence the relative position of the jaw F will always be the same—that is, its plane will at all times be parallel to that which it holds when in the closed position. This method of hanging the jaw F so as to maintain the same parallelism throughout its movement is a known construction or arrangement of jaw in pliers. In the other arm D a jaw K is hung upon a pivot L, the pivot L being parallel with the pivots E and G. This jaw presents substantially a flat face toward the jaw F, and extends substantially alike both sides of the pivot and so that it may rock thereon in the plane in which the arm D swings. Because of the rocking permitted the jaw K, it may tip with relation to the jaw F in either direction, as indicated in broken lines, Fig. 3, and so as to adapt itself to the shape of the article which may be grasped between the two jaws—that is to say, if it be tapering with the larger breadth outward then the outer end of the jaw K will turn outward and the inner end inward, toward the jaw F, as seen in broken lines, one position, Fig. 3; or, if the broader end be inward beyond the pivot, then the jaw K will tip in the opposite direction, as also indicated in broken lines, Fig. 3. The jaw K, being free at all times to swing automatically, adapts itself to the shape of the thing to be grasped. The jaw F being always held in the same position and firm, while the jaw K automatically adjusts itself to the article, the pliers are able to make a firm grasp upon the thing required to be held.

I represent the levers as made from sheet metal, and I prefer to so construct the levers; but as this is a common expedient in the manufacture of similar instruments, long and well known, I make no claim thereto, nor do I wish to be understood as confining the invention to levers made from sheet metal.

From the foregoing it will be understood that I do not claim, broadly, a pair of pliers having a jaw hung therein, so as to maintain the same parallelism throughout its movement; but

What I do claim is—

A pair of pliers consisting of a pair of le-

vers crossing each other and pivoted together
at the crossing, the arms on one side of the
pivot forming handles, with a jaw hung upon
a pivot in the other arm of one of said levers
5 and in slotted connection with a pivot on the
handle-arm of the other lever, the said pivots
upon which the said jaws are hung being
substantially equidistant from the pivot on
which the levers swing, combined with a sec-
10 ond jaw hung upon the other arm of the said
other lever and so as to rock in the plane of

the swing of the levers, the said second jaw
presenting a flat face toward the said first
jaw, substantially as described.

In testimony whereof I have signed this 15
specification in the presence of two subscrib-
ing witnesses.

FREDRICH W. BROCKSIEPER.

Witnesses:

E. H. EGGLESTON,
W. S. COOKE.